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Experiments with single ytterbium ions NAN YU, LUTE MALEKI, JPL, California Institute of Technology, Pasadena, CA — Trapped ions are now widely used in generating frequency standards, studying fundamental physics, and implementing quantum computation. In this proceeding, we report our initial experimental results with single trapped Yb^+ ions. We have observed resolved micromotion-sideband spectrum in an allowed transition and demonstrated that it can be conveniently used in micromotion reduction. In addition, we have made lifetime measurements in the both $4f^{14}5d$ metastable states. Experimental design and progress toward cavity QED using the trapped ions will also be discussed.

ion trapping
life times
ytterbium ions

☐ Prefer Oral Session
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